EPILEPTOID VARIETIES OF HYSTERO-EPILEPSY.

By CHARLES K. MILLS, M.D.,

LECTURER ON MENTAL DISEASES AND ELECTRO-THERAPEUTICS IN THE UNIVERSITY OF PENNSYLVANIA, NEUROLOGIST TO THE PHILADELPHIA HOSPITAL, ETC.

IN the *American Journal of the Medical Sciences* for October, 1881, in a paper on *Hystero-Epilepsy*, after presenting the details of two cases, I gave a full description of this disease as known and studied in France, much of my material being drawn from the works of Charcot, Bourneville, and Richer. The term hystero-epilepsy should be restricted in its application, as there advised, to a disorder in which hysterical and epileptic symptoms are commingled in the same attack,—what is spoken of by the French as hystero-epilepsy with combined crises. It cannot too often be insisted upon that the disease is, in its essence, hysteria and not epilepsy. In the affection known as hystero-epilepsy with separate crisis, the same patient is the victim of two distinct diseases, hysteria and epilepsy, the symptoms of which appear independent of each other.

The curious, grotesque, or outrageous manifestations known as hysterical, have been discussed with more or less minuteness by authors from the time of Sydenham to the present; but usually, and more especially in all countries but France, these manifestations have been studied as isolated phenomena. Charcot and Richer, however, present

a comprehensive view of hysteria as a disease of a certain typical form, but often manifesting itself in an imperfect or irregular manner. This regular type is characterized particularly by a frequently or infrequently recurring "grave attack," which is divided into distinct periods, and these periods into phases. Richer divides the attack into four periods. The first is the epileptoid period, in which loss of consciousness, arrest of respiration, muscular tetanization in various positions, followed by clonic spasms, and, finally, muscular resolution, are the successive phenomena, usually lasting several minutes. The second period is that of contortions and great movements, in which extraordinary attitudes are assumed, the backward arched position of the body being the most common; and in which also rapid and grotesque movements are performed by the entire body or by a part of the body. The third period is known as that of emotional attitudes or statuesque positions, in which the patient is a prey to strange hallucinations, and may make use of expressions and assume attitudes illustrating various emotions, such as menace, appeal, amorousness, mockery, etc. The fourth period, that of delirium, is one in which the patient converses and recites, sometimes recounting her past history, sometimes reproaching, entreating, or working herself into a fury, sometimes making astounding statements and accusations.

This regular type of grave hysteria once understood, a place of advantage is gained from which to study the disease in its imperfect, irregular, and abortive forms. We have presented by Charcot and Richer a disease with an undoubted cerebral pathology. Whatever that pathology may be, such striking symptoms as loss of consciousness with spasm, hallucinations, and illusion, show, at least, a temporary disturbance of the integrity of the cerebrum; and, in addition, the more or less permanent symptoms of

paralysis, contracture, anæsthesia, etc., indicate cerebral involvement. Apparently, according to the extent of the cerebral cortex involved, will be the range of the hysterical phenomena. Hystero-epilepsy of imperfectly developed or irregular type is, therefore, a not uncommon affection. In this country the disease in its regular type is comparatively rare; but the first case described in the *American Journal of Medical Sciences* was one of this type, and a few others have been reported by American authors. Formerly I was inclined to regard hystero-epilepsy of any type as of somewhat rare occurrence in the United States; but in the light of a larger experience, I have come to believe that irregular forms are to be met with somewhat frequently.

Let me here give some idea of the way in which hystero-epilepsy may be modified, by quoting from my former paper. "According to Charcot the attack of hystero-epilepsy can be modified according to two principal methods: 1. By extension or predominance of one period at the expense of the others, which become lessened or even effaced, thus producing, *a*, the *epileptoid attack; b, the demoniacal attack; c, the attack of ecstasy; d, the attack of delirium.* 2. By the blending of elements foreign to the fundamental constitution of the attack, such, for instance, as *somnambulism, lethargy*, and *catalepsy*."

The epileptoid attack, so far as my experience has gone, is the most prevalent American variety of hystero-epilepsy; although I have seen illustrations of almost every form described by Charcot and Richer.

"When the varieties are the result of the predominance and modification of the first period, *epileptoid attacks* are produced. The last three periods are to a greater or less extent suppressed. Sometimes the epileptoid attack will be isolated like a paroxysm of true epilepsy. Sometimes

attacks will succeed each other in rapid succession, constituting the *epileptoid state* (*état de mal épileptoide*). Epileptoid varieties of the hystero-epileptic attack could, of course, be multiplied indefinitely. Richer contents himself with a study of four varieties: *a.* The *epileptoid status*, in which the tonic and clonic phases, and the phase of resolution and stertor occur, and these are repeated again and again for hours, days, and even weeks and months. Charcot speaks of a case in which this state actually persisted for two months. *b. Incomplete epileptoid fits*, which closely resemble the epileptic vertigo, which accompany certain rapid and localized muscular contractions. Herpin has well described these seizures under the name of epileptic commotions. A jerking or convulsive movement shakes the body like an electric shock; the trunk may be bent, the arms elevated, or the legs flexed, or a single limb or the face or head may be jerked. Sometimes the patients fall, more frequently they do not. Sometimes sight is dimmed; intelligence and consciousness sometimes are and sometimes are not affected. A cry, dyspnœa, nausea, precordial pain, and palpitations sometimes occur. To the above may be added such hysterical phenomena as ovaralgia, strangulation, palpitations, whistlings in the ears, beatings in the temples, swelling of the neck, tympanites, borborygmi, etc. The epileptoid commotion may repeat itself in a series of seizures. *c. Attacks of visceral spasm.* Visceral spasm may be so great, as shown by hiccough, lifting of the chest, contraction of the muscles of the neck, and terribly irregular respiration, that the patient will appear to be dying; but ovarian compression interrupts the attack, and a little chloroform causes it to cease entirely. The appearance of great gravity is far from being real. *d. Epileptoid attacks with general and permanent contracture.* A limb or limbs, or the face may be violently contracted, with or without loss of consciousness. Ovarian

pain, thoracic oppression, sensations of strangulation, palpitations, cyanosis of the face, etc., may be present. Sometimes the general contraction is accompanied by loss of consciousness and a lethargic sleep which may be prolonged for hours."

I have seen a number of cases of hystero-epilepsy of the epileptoid variety. These cases have presented a few or many of the symptoms of grave hysteria, such as anæsthesia, analgesia, hyperæsthesia, blindness, aphonia, paralysis, contracture, etc., and have also been the subjects of attacks of tonic and clonic spasm, with complete or partial loss of consciousness. The phenomena of the periods of contortions and great movements, of emotional attitudes, and of delirium, have been, however, altogether or almost entirely absent. These epileptoid attacks have varied somewhat in different cases. I will give in some detail the notes of three cases:

CASE 1.—M., æt 27, a widow, was admitted to the Philadelphia Hospital, February 4, 1882. She was married thirteen years before, when only fourteen years of age. She remained in comparatively good health for four years after her marriage, during which time she had three children, all of whom died in early infancy. Nine years before admission to the hospital, and therefore four years after her marriage, while carriage-riding, she, for the first time, had a spasm. According to her story, the seizure was very severe; she lost consciousness, and passed from one spell into another for an hour or more. She had a second attack within two weeks; and since has had others at intervals of from one week to three or four months. Four years ago she passed into a condition of unconsciousness or lethargy, in which she remained for three days. On coming out of this state, she found that the left half of her body was paralyzed, and that she was speechless. In two weeks she recovered her speech, and the paralysis disappeared. On June 15, 1881, she gave birth to a male child. On the night of the 16th she became delirious, and on the 17th she again lost her speech and had a paralytic seizure, the paralysis now affecting both legs. She recovered her speech in a few days, but

the paralysis remained. Her babe lived, and with her was admitted to the hospital. He had had seven attacks of spasm at intervals of about a month.

The above history was obtained from the patient, who was intelligent. She also stated that her mother was for a time insane, and that she had been an inmate of an insane asylum for some months since her first epileptiform attack.

She was carefully examined on the day of her admission. She was bright, shrewd, and observant. She gave an account of her case in detail, and said she was a "puzzle to the doctors." Both legs were entirely helpless; the feet were contractured in abduction and extension, assuming the position of talipes equino-varus; the legs and thighs were strongly extended, the latter being drawn together firmly. The left upper extremity was distinctly weaker than the right; but all movements were retained. She had no grasping power in the left hand. She was completely anæsthetic and analgesic below the knees, and incompletely so over the entire left half of her body. Pain was elicited on pressure over the left ovary, and over the lower dorsal and lumbo-sacral region of the spine. Both patellar reflexes were exaggerated.

On March 19, 1882, I lectured on this patient at my "clinic" at the hospital, stating that I believed the case to be one of hystero-epilepsy, and that I only needed to see an attack of spasm to confirm the diagnosis. Up to this time she had not had a seizure since admission. She had, however, been complaining for several days of peculiar sensations in the head and of severe headache. She had also been more irritable than usual, and said that she felt as if something was going to happen to her. On the afternoon of the 19th Dr. Rohrer, the resident-physician in charge of the patient, was sent for, and found her in a semi-conscious state. She did not seem to know what was going on around her, but was not in a stupor. Her pulse was 114 to 120; respirations were 20 to 22, regular. The corneæ responded on being touched. Some twitching movements of the eyeballs and eyelids were noticed; the thumb and forefinger of the left hand also moved, as if rubbing something between them.

In a few moments an epileptoid paroxysm ensued. She became unconscious and rigid. The lower extremities were strongly extended in the equino-varus position already described. The arms were extended at her sides, the wrist being partly flexed and rotated outward, the hands clenched. Her face, at first pale, became deeply congested. Her trunk became rigid in a position of

partial opisthotonos. Brief clonic spasms followed, then resolution, the whole seizure not lasting more than from two to three minutes. She lay for a minute or two unmindful of any thing or any body, and then sat up and looked around wildly. She dropped back again and began to mumble, as if she wished to speak, but could not. Paper and pencil were given to her, and she wrote that she was conscious, but could not speak. Her temperature, taken at this time, was 99.8° F.

Attacks similar to the one just described occurred at irregular intervals for two days. On their cessation she was speechless, and the permanent symptoms already detailed—the anæsthesia, paralysis, etc.—were deepened. During the attacks but little treatment was employed; hypodermic injections of morphia and potassium bromide by the mouth were, however, administered. After the attack the valerianate of iron by the mouth, faradization of the tongue, and galvanization of the legs below the knees, with weak currents, were ordered. Her speech returned in a week. For about a month she showed no other signs of improvement; then she began to mend slowly, gradually using her limbs more and more. On May 11, 1882, she was discharged, and walked out of the hospital with her child in her arms, apparently perfectly well. During the last month of her stay no treatment was used but mild galvanization every other day.

CASE 2.—Mrs. A., æt. 45, a lady, noted for her common-sense and firmness of character, was seen by me in consultation. For some months at her menstrual period she had been "out of sorts." At times she had had hallucinations of sight. On one occasion, for instance, she had seen a man with a pistol shooting at people in a church. For several weeks she had been troubled more or less with a feeling of numbness and heaviness in the left arm and leg, particularly in the latter; and also with diffused pain in the head, and a sensation of aching and dragging in the back of the neck. For three weeks, off and on, she had had diarrhœa, which had weakened her considerably.

She awoke one morning feeling badly and yawning every few minutes. She passed into a condition of unconsciousness with attacks of spasm. I did not see her on this, the first day of her severe illness, but obtained from the physician in attendance some particulars as to the character of her seizures. Evidently the condition was similar to that presented by Case 1, that described by Richer as the *epileptoid status*, in which tonic and clonic spasm and resolution are repeated again and again. Attack after

attack occurred for nine or ten hours, sometimes one immediately following another, sometimes an interval of several minutes or of half an hour or more intervening. Respiration was partially arrested. Tonic spasm predominated; the limbs became rigid in various positions; sometimes the neck and trunk were strongly bent backward, producing partial opisthotonos. While the body and limbs remained tetanized they were thrown into various positions (clonic phase of an epileptoid attack). Although she answered questions addressed to her by her physician between the spells, she did not recognize him until evening, after the spasms had ceased, and then was not aware that he had been in attendance during the day, although he had been with her almost constantly. Leeching and dry cupping to the back of the neck were employed; and potassium bromide and tincture of valerianate of ammonia were given.

Early on the morning of the next day she had another attack of unconsciousness and spasm, in which I had the opportunity of seeing her. The spasm amounted only to a slight general muscular tetanization. The whole attack lasted probably from half a minute to a minute. The following day, at about the same hour, another paroxysm occurred, having a distinct but brief tonic, followed by a clonic, phase, in which both the head and body were moved. The next day, also at nearly the same hour, she had an attack of unconsciousness, or perverted consciousness, without spasm. She had a similar seizure at 4 P.M. For two days succeeding she had no attacks; then came a spell of unconsiousness. After this she had one or two slight attacks, at intervals of a few days, for about two weeks.

Between the attacks the condition of the patient was carefully investigated. On lifting her head suddenly she had strange sensations of sinking, and sometimes would partially lose consciousness. She complained greatly of pain in the head and along the spine. Her mental condition, so far as ability to talk, reason, etc., was concerned, was good, but any exertion in this direction easily fatigued her and rendered her restless. She had at times hallucinations of animals, which she thought she saw passing before her from left to right. The left upper and lower extremities showed marked loss of power. The paralysis of the left leg was quite positive, and a slight tendency to contracture at the knee was exhibited. She was for two weeks entirely unable to stand. The patellar reflexes were well marked. Left unilateral sweating was several times observed.

A zone of tenderness was discovered in the occipital region and nape of the neck; and there was also left ovarian hyperæsthesia. Left hemianæsthesia was present; head, trunk, and limbs being affected. She complained of dimness of vision in the left eye; and examination by the attending physician and myself showed both amblyopia and achromatopsia; she was unable to read print of any size, or to distinguish any colors with the left eye, although she could tell that objects were being moved before the eye. A distinguished ophthalmologist was called in consultation. An ophthalmoscopic examination showed a normal fundus. Each eye was tested for near vision. It was found that she could read quite well with the right eye, and not at all with the left. While reading at about sixteen inches, a convex glass of three inches focus was placed in front of the right eye, but she still continued to read fluently. A few minutes later, however, on re-testing, she could not read or distinguish colors with the left eye.

Sometimes toward evening her feet would become slightly œdematous. Examination of the urine showed neither albumen nor sugar. The heart-sounds were normal.

Owing to the apparent periodicity of the attacks, quinine in large doses was administered, and seemed to act beneficially. In addition, valerianate of zinc, and iron, strychnia, and other nerve-tonics were used in her subsequent treatment. Applications of faradic electricity, both with the metallic brush and the moist sponges, were made every other day. She was persistently and strongly encouraged as to the certainty of her recovery. Her paralysis, anæsthesia, etc., gradually disappeared, and in little more than two months she was able to leave home and go to the country. She has since remained well, but is more easily fatigued than formerly, and does not feel as strong in the left side of her body as she did when in perfect health. At her menstrual period she becomes very nervous.

CASE 3.—This patient was for a long time under the professional care of Dr. George McClellan, of Philadelphia, who has kindly furnished me with some notes. I shall simply give an outline sketch of the case, describing particularly her epileptoid attack, as Dr. McClellan will probably publish the case in greater detail at some future time. For several weeks, during the absence of Dr. McClellan from the city, she was attended by Dr. M. O'Hara, and with him, I saw her frequently in consultation.

Miss M., æt. twenty-three, was a well-educated young lady, fond of reading and æsthetic pursuits. In the autumn of

1880 she had nursed her mother faithfully through a serious illness. She became anæmic and nervous. Choreic twitchings and occasional slight spasms were the first symptoms that alarmed her family. The spasms came on apparently from any over-exertion. Gradually they became a little more severe in character. Under rest treatment, with gentle massage, tonics, and steady feeding, in six weeks she greatly improved. A few weeks later, however, she again relapsed, and became worse than she had ever been. The spasms returned with greater force and frequency. She became unable to walk, or could only walk a few steps with the greatest difficulty, although she could stand still quite well. On attempting to step either forward or backward, her head, shoulders, hips, and trunk would jerk spasmodically, and she would appear to give way at the knees. No true paralysis or ataxia seemed to be present, but locomotion was impossible, apparently because of irregular clonic spasms affecting various parts of her body.

Eventually she became extremely hyperæsthetic in various regions (hysterogenic zones), along the spine, beneath the breasts, in the ovarian area, etc. The slightest pressure, or any applications of heat or cold, electricity, etc., would generally bring on an attack of spasm.

I had several opportunities of witnessing the attacks. While trying to apply galvanism on one occasion, she suddenly complained of nausea, and her expression changed, becoming somewhat fixed. Her face became flushed, her limbs and body rigid. The head and body were thrown backward to a moderate extent. Next, the shoulders were drawn upward, the head appearing to be sunk between them ; the arms were found to be rigidly extended at her sides, the wrists partly flexed, and the fingers clenched ; the legs also were spasmodically extended, the thighs drawn together, and the feet in the equino-varus, or "hysterical club-foot" position. Phenomena like those described above as visceral spasm now were observed. The chest, and even the abdomen, were lifted up and down rapidly, and the respiration became quick, irregular, and apparently very difficult. Consciousness seemed to be impaired, but not absolutely lost. The symptoms just described took about one minute for their exhibition. Muscular relaxation now occurred, and an interval of calm, lasting about two minutes, followed, during which the patient spoke, answering one or two questions addressed to her. After the brief period of repose, however, another phase of the attack

came on. In this, the heaving movements of the body, and what appeared to be intense respiratory spasms, were the chief features. This portion of the attack endured scarcely a minute; the patient came to quickly, and was able to converse. In general, her attacks were of a similar character.

I will not go into wearisome details with reference to the drugs and methods of treatment employed. The drugs used included bromides, iodides, strychnia, chloride of sodium and gold, zinc salts, iron, etc., etc.; her condition vacillating, sometimes better, sometimes worse. She was finally placed in bed by Dr. McClellan, and an extension apparatus was employed, under which treatment, in a little more than one year from the time she was first attacked with spasm, she recovered.

A few words in conclusion with reference to the diagnosis of hystero-epileptic attacks from paroxysms of epilepsy may be of value to the general practitioner, if not to the neurologist. As the prognosis in hystero-epilepsy is much less grave than in epilepsy, the importance of a recognition of the true character of the seizures is too evident to need discussion. In the first place, let me repeat the diagnostic signs between hystero-epilepsy and true epilepsy, as summarized by Richer:

"(*a*) Arrest of the attacks by ovarian compression, by the application of inverted electric currents, and by irritation of the hysterogenic zones, can be brought about in hystero-epilepsy and not in epilepsy.

"(*b*) The course of the temperature in the epileptic state and in the hystero-epileptic state differs. This point of capital importance has been indicated by Charcot and Bourneville. An elevated temperature of 40° C. (104° F.) or more, belongs to the epileptic state; while in hystero-epilepsy the temperature remains nearly normal, and only under exceptional circumstances passes above 38° C ($100\frac{2}{5}$° F.).

"(*c*) The mode of action of potassium bromide, a drug frequently used in both affections, favors the opinion that the

two diseases are distinct. Potassium bromide, so salutary in epilepsy, is without efficacy in hystero-epilepsy.

"The service of Charcot at Salpêtrière contains a number of types of epileptic insanity truly startling. These form a strong contrast to the 'veterans' of hystero-epilepsy."

It is important that the hysterical or hystero-epileptic contortion should not be confounded with the opisthotonos of tetanus. This might be thought to be a highly improbable occurrence, and perhaps it is, but it has happened to me to see the mistake made quite recently in a case in which I was called in consultation. The patient had had a series of hystero-epileptic seizures, in which muscular tetanization was a prominent feature. The chief points of distinction, as given in my former paper, are as follows:

"In the opisthotonos of tetanus, the contraction of the face, and the peculiar grin, are distinguishing points. In the hysterical arched position, while the jaws may be strongly forced together, the features are most often with out expression. The contracture of the face and the distortion of the features will be met with more often in the other varieties of contortion. The curvature of the trunk differs but little in the two cases, but the abdominal depression, observed in the sketch of Bell, is far removed from the tympanites present in the majority of the hystero-epileptics. In the tetanic cases the patients rest only on the heels, while in the hysterical cases the knees are slightly flexed, and the patients are usually supported on the bed by the soles of the feet."

These distinguishing marks, it will be seen, have more particular reference to those cases of hystero-epilepsy in which the period of contortions and great movements is not suppressed; but even in epileptoid varieties, such as have been described in this article, the absence of the sardonic grin and the position of the feet are noteworthy points.

Ross (" Diseases of the Nervous System," vol. ii, p. 895) speaks as follows, with reference to this question of differential diagnosis:

" Hysterical convulsions may be distinguished from epilepsy by negative characters. The loss of consciousness in the former is not complete, nor is it sudden in its onset; there is no asphyxia; the tongue is not bitten; the attacks last longer than in epilepsy; the patient does not, on the cessation of the attack, fall into a profound stupor, but only appears exhausted, and there is much sobbing and crying."

These are all strong points, and can be accepted without comment except the first, namely, the incomplete loss of consciousness. I find that the fact of consciousness or unconsciousness is often the stumbling-block to the physician in trying to arrive at a diagnosis. In not a few of our text-books and colleges complete loss of consciousness is laid down as the strongest evidence of the existence of true epilepsy. So far is this from being true, that, on the one hand, as Hughlings Jackson has pointed out, in some cases which can be best classed with epilepsies, consciousness is not lost; and, on the other, in hystero-epilepsy, particularly in the epileptoid varieties, or in the epileptoid period of the typical attack, loss of consciousness is often complete. According to Richer, loss of consciousness is complete during the entire epileptoid period in a case of the regular type.

The question of consciousness or unconsciousness is not always as easy of decision as at first blush one might suppose. Varying degrees of consciousness may be present. Sensibility may be for a time abolished, and yet a patient may preserve some liberty of movement, and subsequently may remember what has occurred during the time, as is said to be the case in the period of emotional attitudes of

hystero-epilepsy. During some stages of hystero-epileptic attacks, the patients may be accessible to some external influences and not to others. In the epileptoid varieties of hystero-epilepsy, as illustrated in the cases just detailed, either the loss of consciousness is manifestly complete, the patient not responding to any outside irritants or influences; or we have a condition of what might, perhaps, best be termed altered or perverted consciousness, where it is hard to determine whether the patient is totally oblivious to her surroundings. While, however, loss of consciousness is sometimes to all intents and purposes complete in hystero-epilepsy, the careful clinical observer will not fail to notice a difference in the appearance presented by the patient and that exhibited in the paroxysm of grave epilepsy.